MA2210 Syllabus

Instructor: William J. Martin
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Office hours: 9-10 MTRF,
11-12 MR, or by appointment
...or just stop by

The goal of this course is to introduce mathematical tools used in decision making. Thus the course consists of a brief survey of an area known as “Operations Research” or “Management Science”. The topics covered range from linear programming to network models to decision trees to queueing models. Familiarity with these powerful tools of analysis and cost-efficiency gives a competitive edge to engineers, scientists and managers in the complex world of business. Students will be expected to master a wide range of mathematical techniques which have proven effectiveness in a vast array of areas of application.

TERM SCHEDULE

Here is a rough outline of what we will cover in the 28 lecture periods:

- Mar. 12 to Mar. 16  Linear Programming, Simplex  Chapters 2 & 17
- Mar. 19 to Mar. 23  Sensitivity, Applications  Chap. 3 & 4
- Mar. 26 to Mar. 30  ILP and Networks  Chap. 6 & 7
- Apr. 2 to Apr. 6  Networks, Assignment, PERT/CPM  Chap. 9
- Apr. 9 to Apr. 13  Queueing Theory  Chap. 11
- Apr. 17 to Apr. 20  Decision Trees  Chap. 13
- Apr. 23 to Apr. 27  Markov Processes  Chap. 16
- Apr. 30 to May 1  Wrap Up  as needed

Specific reading assignments will be given weekly. These amount to roughly 40 pages of reading expected of the student each week.

GRADES

A: 100 % – 88 %;  B: 87.99 % – 74 %;  C: 73.99 % – 60 %

GRADING SCHEME

Homework (best 5 out of 7 assignments):  25 %
3 Tests (Mar. 30, Apr. 13, May 1): 75 %

Assignments will be due at 4:00pm on the following dates:  Mar. 16, Mar. 22, Mar. 29, Apr. 5, Apr. 12, Apr. 20, Apr. 26. The staff will provide a bin for these assignments in the Mathematical Sciences Department Office, SH108.
No late assignments will be accepted for credit. There will be no make-up tests. All students are expected to attend all tests.

ACADEMIC HONESTY

Each student is expected to familiarize him/herself with WPI’s Academic Honesty policies which can be found at

http://www.wpi.edu/offices/policies/honesty

All acts of fabrication, plagiarism, cheating, and facilitation will be prosecuted according to the university’s policy. If you are ever unsure as to whether your intended actions are considered academically honest or not, please see Professor Martin.

STUDENTS WITH DISABILITIES

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Disability Services Office (DSO) as soon as possible to ensure that such accommodations are implemented in a timely fashion. The DSO is located in the Student Development and Counseling Center and the phone number is 508-831-4908, e-mail is DSO@WPI.EDU

If you are eligible for course adaptations or accommodations because of a disability (whether or not you choose to use these accommodations), or if you have medical information that I should know about, please make an appointment with me immediately to discuss these matters.

INFORMATION ON THE WEB

The course web page is

http://users.wpi.edu/~martin/TEACHING/current.html